Conclusion: Early diagnosis and intensive medical and surgical treatment were mandatory to minimize both morbidity and mortality from NEC. Surgical management should be determined according to the special circumstances of each case. However, the optimum choice between peritoneal drainage and laparotomy remains controversial. Gestational age, birth weight, age at admission, and treatment modality are definite prognostic factors as regard morbidity and mortality of patients with NEC.

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The use of open source electronic medical records in an urban ED in Kumasi-Ghana

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Introduction: In a busy emergency department (ED), missing patient medical records is a common complaint to contend with. Electronic medical records (EMR) may be one useful way of ensuring patient record integrity and confidentiality. KATH ED sees 28,000 patients a year and integrity of patient records is a major challenge. This study sought to improve the integrity of medical records within the ED and efficiency of patient flow within the ED
Methods: Regular panel meetings of emergency physicians, IT specialists and biostatisticians were held from February, 2012 to February, 2013. Open source software, Openemr was adapted in the creation of electronic medical records for the ED of KATH in February, 2012. Changes were made to the software included registration and patient search, triage board, doctor's notes whiteboard to reflect the pattern of practice in KATH ED.
Results: The EMR allows registration, triage and the entire medical records to be stored on patients. 12,000 Patient demographics have been migrated on to the EMR. Emergency physicians and charge nurses are able to monitor patient flow in the ED.
Conclusion: Open source medical records may be the most appropriate and cost-effective software to adapt for keeping patient records electronically in a low resource setting. Further studies need to be conducted to demonstrate how EMR may affect the pace of work in the ED.

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Comparative trend analysis of gunshot injuries and motor vehicle crashes at the KATH Emergency Department

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Introduction: Motor vehicle crashes are a major cause of morbidity and mortality in developing countries. Injuries resulting from fire arms were the second leading cause of death in the US in 2003. In Ghana, motor vehicle crashes (MVC) are a common cause of injury and mortality whiles firearm related injuries (FAI) have not featured highly. However, with increase in commercial and industrial activities in Ghana, firearm related injuries have been on the increase. This study seeks to compare FAI and MVC admissions in the ED.
Methods: A retrospective cross-sectional review of all admissions resulting from FAI and MVC from May, 2009 to December, 2012. The trends in rate of admissions per month and yearly was assessed and compared. Analysis was done using Stata 11.0
Results: There were 409 FAI and 11,195 MVC admissions over years. Men were more involved in both MVC and FAI than women. FAI and MVC admissions occurred mostly between June and August, and November and December each year. FAI admissions have increased by seven-fold in four years whereas MVC admissions increased by 1.8 in 2011 and declined by 11.5% by the end of 2012. In 2009, FAI constituted 0.8% of all injuries in the ED in 2009 and at the end of 2012 contributed 5% to the injury pool.
Conclusion: MVC continue to be a major cause of injury admissions, however the rising FAI admissions cannot be overlooked. FAI may have gained public health significance in Ghana and requires attention as MVC.

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Emergency medicine task shifting: Quick dash outcome scores of upper extremity injury management

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Study Objectives: This is a pilot study using the Quick DASH Survey (disabilities of arm, shoulder and hand), a validated outcome measurement tool. Our primary objective was to assess functional outcomes of patients with acute upper extremity injuries who were cared for by non-physician clinicians as part of a task-shifting program. Secondarily, we determined if the Quick DASH can be successfully utilized in a non-traditional low-resourced setting.
Methods: This pilot was administered by the Global Emergency Care Collaborative (GECC) at the Karoli Lwanga Hospital Emergency Department (ED) in Uganda. Patients were identified retrospectively by querying the ED quality assurance database. An initial list of all patients who sustained traumatic injury (RTA, Assault or Accident) between March 2012 and February 2013 was narrowed to patients with upper extremity trauma, those 18 yrs and older, and those with cellular phone access. This subset of patients was called and administered the Quick DASH. The results were subsequently analyzed using the standardized DASH metrics. These outcome measures were further analysed based upon injury type (simple laceration, complex laceration, fracture, subluxation), laceration location (finger, palm, wrist), age at presentation (18–69), and time from initial presentation to follow up (1–11 months).
Results and conclusions: There were a total of 25 initial candidates, of which only 17 were able to complete the survey. Using the Quick DASH Outcome Measure, our 17 patients had a mean score of 29.5 (range 5.0– 56.8). When compared to the standardized Quick DASH outcomes (no work limitation at 27.5 vs. work limited by injury at 52.6) the non-physician clinicians appear to be performing upper extremity repairs with good outcomes. The key variable to successful repair was the initial injury type. Although accommodations needed

to be made to the standard Quick DASH protocol, the tool appears to be usable in non-traditional settings.

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The systemic inflammatory response syndrome as a predictor of mortality among febrile children in the emergency department

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Introduction: Sepsis is defined as a known or suspected infection in a patient with elements of the systemic inflammatory response syndrome (SIRS). Septic patients present with a variety of clinical manifestations, but temperature dysregulation, tachycardia, tachypnoea, and an abnormal white blood cell (WBC) count are considered cardinal components of SIRS. We investigated the predictive value of SIRS criteria for in-hospital mortality among febrile children under 5 years old presenting to the Emergency Department (ED) at Muhimbili National Hospital in Dar es Salam, Tanzania.
Methods: This was a descriptive cohort study of febrile children under 5 years, presenting to our ED. Providers prospectively completed a standardized data sheet. Outcome data was obtained from hospital records and telephone follow-up. Study data were entered into Excel (Microsoft, Redmond, WA, USA) and analysed in SAS 9.3 (Cary, North Carolina, USA).
Results: We enrolled 105 patients between August and November 2012. The median age was 14 months, with 80% over 6 months old, and 63.8% were male. 57 (54.3%) children were referred from outside facilities. The overall mortality rate was 19%, and 90% of children who died had $\geqslant 2$ SIRS criteria. Mortality in children with $\geqslant 2$ SIRS criteria (in addition to fever) was significantly higher (27.7% versus 5%) than in those with 0–1 SIRS criteria, and children with fever and > 2 SIRS criteria were seven times more likely to die (OR 7.05, $p = 0.01$). 85 children were discharged from the hospital, and of the 64 (75.3%) children we were able to reach after discharge, all were alive at 14 day telephone follow-up. 19/85 children who survived to hospital discharge were lost to follow up.
Conclusion: SIRS criteria may be helpful to predict febrile children at high risk of mortality. Further studies are needed to validate these findings in larger cohorts.

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A very complicated pleural effusion

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Case report: A 33-year-old male attended the emergency department with a three day history of dyspnoea. He had previously completed treatment for pulmonary tuberculosis and was HIV-positive on antiretroviral therapy. On examination, he was tachypnoeic with saturations of 89% on air. He had reduced air entry throughout the right lung and muffled heart sounds. He was afebrile and haemodynamically stable. Plain chest radiograph showed large bilateral pleural effusions, worse on the right. Urgent small-bore catheter drainage of the right lung was performed. Biochemistry showed an exudative effusion. 3.2 litres of fluid was drained within 4 hours, with an improvement in clinical condition. The patient then became increasingly tachypnoeic and rapidly desaturated. Repeat chest radiograph showed partial drainage of the effusion, however now with a 2 cm pneumothorax and oedematous right lung field. Sublingual nitrate, furosemide and an intercostal drain were placed with initial good response. The patient was admitted, but unfortunately died overnight.
Discussion: Re-expansion pulmonary oedema is a recognised complication of large pleural effusion drainage. The mechanism remains unclear, although reduced left ventricular function, in this case from a possible pericardial effusion, may be a precipitant. To prevent this phenomenon the British Thoracic Society recommends draining a maximum of 1.5 litres of fluid. This case was further complicated by a pneumothorax; again a recognised complication, especially if there is underlying poor compliance of the lung parenchyma. Re-expansion pulmonary oedema has an incidence of $< 1\%$ and pneumothorax $< 5\%$. Their occurrence has not previously been reported simultaneously. Large pleural effusions are commonly encountered in clinical practice in South Africa. The existence of multiple co-morbidities including tuberculosis, HIV and impaired cardiac function may complicate their management. This case highlights the need for close monitoring and controlled drainage of pleural effusions in emergency practice.

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Sustained knowledge acquisition among Rwandan physicians participating in six-month ultrasound training program

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Introduction: Point-of-care ultrasound (POCUS) is ideal for diagnostic use in resource-limited environments, but its use is often limited by lack of local expertise. Some training courses have been established to bridge this knowledge gap, but little is known about the efficacy of these courses. This study evaluated the effectiveness and sustainability of a six-month POCUS training program for Rwandan physicians.
Methods: A prospective observational cohort study of Rwandan physicians was conducted over six-months. Participants completed a ten-day course introducing ultrasound skills, followed by a six-month clinical phase. Trainees used ultrasound independently with remote image review, completed regular observed structured clinical examinations (OSCE) in POCUS, and received ongoing feedback and web-based mentorship. An image-based assessment (IBA) was administered before and after the ten-day course, and again after six months. Hands-on image acquisition skills were assessed via OSCEs administered at four time points. All calculations were by paired *t*-test.
Results: Seventeen Rwandan physicians completed the initial course. All completed the IBA prior to and at the completion of the training phase. Seven trainees were lost to follow up at the six-month mark due to reassignment. Ten trainees completed the six-month IBA. Mean scores on the IBA increased from 36.9% to 74.3% after the training phase ($p = < .001$) and to 85% ($p = 0.04$) at the end of the clinical phase. Ten trainees completed at least three OSCEs. The average score